

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) An ignition coil device comprising:
a cylindrical secondary spool;
a secondary coil wound around an outer peripheral surface of the secondary spool;
a coil insulating resin material that is filled into spaces between secondary windings of the secondary coil;
a primary spool arranged on an outer peripheral side of secondary coil;
a primary coil wound around an outer peripheral surface of the primary spool;
a connector that is arranged on one end side in an axial direction of these parts and has a connector terminal electrically connected to the primary coil and the secondary coil; and
a resin insulting material for connector that is filled into the connector, wherein the coil insulating resin material has a base material which is the same as or different from a base material of the connector insulating resin material, and wherein the coil insulating resin material is separately arranged from the connector insulating resin material.

Claim 2. (Cancelled).

3. (Currently amended) The ignition coil device as claimed in claim 1, wherein the ignition coil device is free of insulating resin material other than the coil insulating resin material and the connector insulating resin material ~~is not filled~~.

4. (Original) The ignition coil device as claimed in claim 1, wherein the connector insulating resin material has the percentage of content of voids higher than the percentage of content of voids of the coil insulating resin material.

5. (Original) The ignition coil device as claimed in claim 1, wherein at least one of the base material of the coil insulating resin material and the base material of the connector insulating resin material is epoxy resin.

6. (Withdrawn) The ignition coil device as claimed in claim 1, wherein fillers are distributed in the base material of the coil insulating resin material and in the base material of the connector insulating resin material, and wherein the percentage of content of the fillers relative to the base material of the connector insulating resin material is higher than the percentage of content of the fillers relative to the base material of the coil insulating resin material.

7. (Withdrawn) The ignition coil device as claimed in claim 6, wherein the percentage of content of the filler of the connector insulating resin material is 55 % or more by weight in a case where the whole connector insulating resin material is 100 % by weight, and wherein the percentage of content of the fillers of the coil insulating resin material is less than 55 % by weight in a case where the whole coil insulating resin material is 100 % by weight.

8. (Withdrawn) The ignition coil device as claimed in claim 6, wherein the fillers are inorganic fillers including one element selected from the group consisting of crystalline silica, mica, talc, fused silica, and alumina.

9. (Withdrawn-Currently amended) The ignition coil device as claimed in claim 1, wherein fillers are distributed in the base material of the coil insulating resin material and the base material of the connector insulating resin material, and wherein the fillers

of the connector insulating resin material are ~~large~~ larger in size than the fillers of the coil insulating resin material.

10. (Withdrawn) The ignition coil device as claimed in claim 9, wherein the fillers are inorganic fillers including one element selected from the group consisting of crystalline silica, mica, talc, fused silica, and alumina.

11. (Withdrawn-Currently amended) The ignition coil device as claimed in claim 1, wherein ~~the~~ fillers are diffused only in the base material of the connector insulating resin material.

12. (Withdrawn) The ignition coil device as claimed in claim 11, wherein the fillers are inorganic fillers including one element selected from the group consisting of crystalline silica, mica, talc, fused silica, and alumina.

13. (Original) The ignition coil device as claimed in claim 1, wherein a coefficient of linear expansion of the connector insulating resin material is smaller than a coefficient of linear expansion of the coil insulating resin material.

14. (Original) The ignition coil device as claimed in claim 1, wherein a coefficient of linear expansion of the connector insulating resin material is not less than 11 ppm/°C and less than 40 ppm/°C.

15. (Original) The ignition coil device as claimed in claim 1, wherein Young's modulus of the connector insulating resin material is smaller than Young's modulus of the coil insulating resin material.

16. (Original) The ignition coil device as claimed in claim 1, wherein Young's modulus of the connector insulating resin material is less than 8200 MPa.

17. (Original) The ignition coil device as claimed in claim 1, wherein an igniter is arranged in the connector insulating resin material.

18. (Original) The ignition coil device as claimed in claim 17, wherein the igniter is held by the connector terminal and is positioned in the connector insulating resin material.

19. (Withdrawn) The ignition coil device as claimed in claim 17, wherein the igniter is positioned in the connector insulating resin material by a protrusion formed on a top of a holder for centering the secondary spool.

Claims 20 and 21. (Cancelled).

22. (New) An ignition coil device comprising:
a cylindrical secondary spool;
a secondary coil wound around an outer peripheral surface of the secondary spool;
a coil insulating resin material that is filled into spaces between secondary windings of the secondary coil;
a primary spool arranged on an outer peripheral side of secondary coil;
a primary coil wound around an outer peripheral surface of the primary spool;
a connector that is arranged on one end side in an axial direction of these parts and has a connector terminal electrically connected to the primary coil and the secondary coil; and
a resin insulting material for connector that is filled into the connector,
wherein the coil insulating resin material has a base material which is the same as or different from a base material of the connector insulating resin material, and

wherein the connector insulating resin material has the percentage of content of voids higher than the percentage of content of voids of the coil insulating resin material.

23. (New) An ignition coil device comprising:
a cylindrical secondary spool;
a secondary coil wound around an outer peripheral surface of the secondary spool;
a coil insulating resin material that is filled into spaces between secondary windings of the secondary coil;
a primary spool arranged on an outer peripheral side of secondary coil;
a primary coil wound around an outer peripheral surface of the primary spool;
a connector that is arranged on one end side in an axial direction of these parts and has a connector terminal electrically connected to the primary coil and the secondary coil; and
a resin insulting material for connector that is filled into the connector,
wherein the coil insulating resin material has a base material which is the same as or different from a base material of the connector insulating resin material, and
wherein a coefficient of linear expansion of the connector insulating resin material is smaller than a coefficient of linear expansion of the coil insulating resin material.

24. (New) An ignition coil device comprising:
a cylindrical secondary spool;
a secondary coil wound around an outer peripheral surface of the secondary spool;
a coil insulating resin material that is filled into spaces between secondary windings of the secondary coil;
a primary spool arranged on an outer peripheral side of secondary coil;
a primary coil wound around an outer peripheral surface of the primary spool;

a connector that is arranged on one end side in an axial direction of these parts and has a connector terminal electrically connected to the primary coil and the secondary coil; and

a resin insulating material for connector that is filled into the connector, wherein the coil insulating resin material has a base material which is the same as or different from a base material of the connector insulating resin material, and wherein a coefficient of linear expansion of the connector insulating resin material is not less than 11 ppm/°C and less than 40 ppm/°C.

25. (New) An ignition coil device comprising:

a cylindrical secondary spool;

a secondary coil wound around an outer peripheral surface of the secondary spool;

a coil insulating resin material that is filled into spaces between secondary windings of the secondary coil;

a primary spool arranged on an outer peripheral side of secondary coil;

a primary coil wound around an outer peripheral surface of the primary spool;

a connector that is arranged on one end side in an axial direction of these parts and has a connector terminal electrically connected to the primary coil and the secondary coil; and

a resin insulating material for connector that is filled into the connector, wherein the coil insulating resin material has a base material which is the same as or different from a base material of the connector insulating resin material, and wherein Young's modulus of the connector insulating resin material is smaller than Young's modulus of the coil insulating resin material.

26. (New) An ignition coil device comprising:

a cylindrical secondary spool;

a secondary coil wound around an outer peripheral surface of the secondary spool;

a coil insulating resin material that is filled into spaces between secondary windings of the secondary coil;

a primary spool arranged on an outer peripheral side of secondary coil;

a primary coil wound around an outer peripheral surface of the primary spool;

a connector that is arranged on one end side in an axial direction of these parts and has a connector terminal electrically connected to the primary coil and the secondary coil; and

a resin insulating material for connector that is filled into the connector,

wherein the coil insulating resin material has a base material which is the same as or different from a base material of the connector insulating resin material, and

wherein Young's modulus of the connector insulating resin material is less than 8200 MPa.

27. (New) An ignition coil device comprising:

a cylindrical secondary spool;

a secondary coil wound around an outer peripheral surface of the secondary spool;

a coil insulating resin material that is filled into spaces between secondary windings of the secondary coil;

a primary spool arranged on an outer peripheral side of secondary coil;

a primary coil wound around an outer peripheral surface of the primary spool;

a connector that is arranged on one end side in an axial direction of these parts and has a connector terminal electrically connected to the primary coil and the secondary coil; and

a resin insulating material for connector that is filled into the connector,

wherein the coil insulating resin material has a base material which is different from a base material of the connector insulating resin material.

28. (New) The ignition coil device as claimed in claim 27, wherein the coil insulating resin material is filled before the connector insulating resin material is filled.

29. (New) The ignition coil device as claimed in claim 27, wherein the connector insulating resin material is further filled in a space between a central core and either one of the secondary spool or the primary spool.